AMENDMENTS TO THE CLAIMS

1. (Currently Amended) A communication mechanism, comprising:

a first network interface, said first network interface having a first static address which is initially mapped to a mechanism-based virtual address associated with said communication mechanism;

a second network interface, said second network interface having a second static address; and

a management mechanism coupled to said first and second network interfaces for effecting network communication therewith,

said management mechanism monitoring said first network interface for an indication of malfunction, ~~and upon detecting malfunction,~~

said management mechanism ~~deriving an updated mapping~~, upon detecting the malfunction, dynamically mapping the mechanism-based virtual address to create an updated mapping by associating said mechanism-based virtual address with said second static address rather than said first static address,

said management mechanism sending said updated mapping via said second network interface to a plurality of other mechanisms in a network, ~~to cause~~

said other mechanisms ~~to use~~using said updated mapping to communicate with said communication mechanism ~~in the future, said updated mapping causing~~such that said other mechanisms ~~to~~ send ~~future~~ communications having said mechanism-based virtual address associated therewith to said communication mechanism via said second network interface rather than said first network interface.

2. (Original) The communication mechanism of claim 1, wherein said first network interface is coupled to said network via a first network connection, and said second network interface is coupled to said network via a second network connection, wherein said first and second network connections are separate and distinct.

3. (Original) The communication mechanism of claim 1, wherein said first network interface is coupled to a first network switch and said second network interface is coupled to a second network switch.

4. (Original) The communication mechanism of claim 3, wherein said first network switch is coupled to said second network switch.

5. (Original) The communication mechanism of claim 1, wherein said mechanism-based virtual address is a higher level address than said first and second static addresses.

6. (Previously presented) The communication mechanism of claim 5, wherein said mechanism-based virtual address comprises an Internet Protocol (IP) address, said first static address comprises a first media access control (MAC) address, and said second static address comprises a second MAC address.

7. (Original) The communication mechanism of claim 5, wherein said mechanism-based virtual address is used by higher level components to send one or more communications to said communication mechanism.

8. (Original) The communication mechanism of claim 7, wherein said first network interface is coupled to a first network switch and said second network interface is coupled to a second network switch, and wherein said first and second static addresses are used by said first and second network switches to switch one or more communications to said communication mechanism via said first and second network interfaces.

9. (Original) The communication mechanism of claim 1, wherein said communication mechanism is operating in a particular role, said particular role having a role-based virtual address associated therewith, and wherein said management mechanism, upon detecting malfunction of said first network interface, derives a second updated mapping by associating said role-based virtual address with said second static address, said management mechanism sending said second updated mapping via said second network interface to said plurality of other mechanisms to cause said other mechanisms to use said second updated mapping in sending future communications to said role-based virtual address, said second updated mapping causing said other mechanisms to send future communications addressed to said role-based virtual address to said communication mechanism via said second network interface rather than said first network interface.

10. (Currently Amended) A communication mechanism, comprising:

a first network interface coupled to a first network switch, said first network interface having a first static address which is initially mapped to a mechanism-based virtual address associated with said communication mechanism;

a second network interface coupled to a second network switch, said second network interface having a second static address; and

a management mechanism coupled to said first and second network interfaces for effecting network communication therewith,

said management mechanism monitoring for an indication of malfunction of said first network switch, ~~and upon detecting malfunction of said first network switch,~~

said management mechanism ~~deriving an updated mapping,~~ upon detecting the malfunction, dynamically mapping the mechanism based virtual address to create an updated mapping by associating said mechanism-based virtual address with said second static address rather than said first static address,

said management mechanism sending said updated mapping via said second network interface and said second network switch to a plurality of other mechanisms in a network ~~to cause~~

said other mechanisms ~~to use~~using said updated mapping to communicate with said communication mechanism ~~in the future, said updated mapping causing~~ such that said other mechanisms ~~to~~ send ~~future~~ communications having said mechanism-based virtual address associated therewith to said communication mechanism via said second network interface rather than said first network interface.

11. (Original) The communication mechanism of claim 10, wherein said first network switch is coupled to said second network switch.

12. (Original) The communication mechanism of claim 10, wherein said mechanism-based virtual address is a higher level address than said first and second static addresses.

13. (Previously presented) The communication mechanism of claim 12, wherein said mechanism-based virtual address comprises an Internet Protocol (IP) address, said first static address comprises a first media access control (MAC) address, and said second static address comprises a second MAC address.

14. (Original) The communication mechanism of claim 12, wherein said mechanism-based virtual address is used by higher level components to send one or more communications to said communication mechanism.

15. (Original) The communication mechanism of claim 14, wherein said first and second static addresses are used by said first and second network switches to switch one or more communications to said communication mechanism via said first and second network interfaces.

16. (Original) The communication mechanism of claim 10, wherein said communication mechanism is operating in a particular role, said particular role having a role-

based virtual address associated therewith, and wherein said management mechanism, upon detecting malfunction of said first network switch, derives a second updated mapping by associating said role-based virtual address with said second static address, said management mechanism sending said second updated mapping via said second network interface and said second network switch to said plurality of other mechanisms to cause said other mechanisms to use said second updated mapping in sending future communications to said role-based virtual address, said second updated mapping causing said other mechanisms to send future communications addressed to said role-based virtual address to said communication mechanism via said second network interface rather than said first network interface.

17. (Currently Amended) A communication mechanism, comprising:

a first network interface having a first static address; and

a management mechanism coupled to said first network interface for effecting network communication therewith,

said management mechanism monitoring a peer mechanism for an indication of malfunction,

said peer mechanism operating in a particular role, said particular role have a role-based virtual address associated therewith,

~~and~~ said management mechanism, upon detecting malfunction of said peer mechanism, ~~said management mechanism deriving an updated mapping~~ dynamically mapping the role-based virtual address to create an updated mapping by associating said role-based virtual address with said first static address,

said management mechanism sending said updated mapping via said first network interface to a plurality of other mechanisms in a network ~~to cause~~

said other mechanisms ~~to use~~ using said updated mapping ~~in sending future~~ to send communications to said role-based virtual address~~, said updated mapping causing~~ such that said other mechanisms ~~to~~ send ~~future~~ communications addressed to said role-based virtual address to said communication mechanism, via said first network interface, rather than said peer mechanism.

18. (Original) The communication mechanism of claim 17, wherein said role-based virtual address is a higher level address than said first static address.

19. (Original) The communication mechanism of claim 18, wherein said role-based virtual address comprises an Internet Protocol (IP) address, and said first static address comprises a media access control (MAC) address.

20. (Original) The communication mechanism of claim 18, wherein said role-based virtual address is used by higher level components to send one or more communications to whichever mechanism is operating in said particular role.

21. (Original) The communication mechanism of claim 20, wherein said first network interface is coupled to a network switch, and wherein said first static address is used by

said network switch to switch one or more communications to said communication mechanism via said first network interface.

22. (Original) The communication mechanism of claim 17, wherein said communication mechanism further comprises a second network interface coupled to said management mechanism having a second static address, and wherein said management mechanism monitors said first network interface for an indication of malfunction, and upon detecting malfunction, said management mechanism deriving a second updated mapping by associating said role-based virtual address with said second static address rather than said first static address, said management mechanism sending said second updated mapping via said second network interface to said other mechanisms to cause said other mechanisms to use said second updated mapping in sending future communications to said role-based virtual address, said updated mapping causing said other mechanisms to send future communications addressed to said role-based virtual address to said communication mechanism via said second network interface rather than said first network interface.

23. (Original) The communication mechanism of claim 17, wherein said communication mechanism further comprises a second network interface coupled to said management mechanism having a second static address, wherein said first network interface is coupled to a first network switch, wherein said second network interface is coupled to a second network switch, and wherein said management mechanism monitors for an indication of malfunction of said first network interface, and upon detecting malfunction of said first network

switch, said management mechanism deriving a second updated mapping by associating said role-based virtual address with said second static address rather than said first static address, said management mechanism sending said second updated mapping via said second network interface to said other mechanisms to cause said other mechanisms to use said second updated mapping in sending future communications to said role-based virtual address, said updated mapping causing said other mechanisms to send future communications addressed to said role-based virtual address to said communication mechanism via said second network interface rather than said first network interface.

24. (Currently Amended) In a communication mechanism comprising a first network interface having a first static address, and a second network interface having a second static address, said first static address being initially mapped to a mechanism-based virtual address associated with said communication mechanism, a computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more processors to manage communication, said computer readable medium comprising:

instructions for causing one or more processors to monitor said first network interface for an indication of malfunction;

instructions for causing one or more processors to, upon detecting malfunction, ~~derive an updated mapping~~ dynamically map the mechanism-based virtual address to create an updated mapping by associating said mechanism-based virtual address with said second static address rather than said first static address; ~~and~~

instructions for causing one or more processors to send said updated mapping via said second network interface to a plurality of other mechanisms in a network ~~to cause said~~;

instructions for causing said other mechanisms to use said updated mapping to communicate with said communication mechanism ~~in the future~~, ~~said updated mapping causing said~~; and

instructions for causing other mechanisms to send ~~future~~ communications having said mechanism-based virtual address associated therewith to said communication mechanism via said second network interface rather than said first network interface.

25. (Original) The computer readable medium of claim 24, wherein said mechanism-based virtual address is a higher level address than said first and second static addresses.

26. (Previously presented) The computer readable medium of claim 25, wherein said mechanism-based virtual address comprises an Internet Protocol (IP) address, said first static address comprises a first media access control (MAC) address, and said second static address comprises a second MAC address.

27. (Original) The computer readable medium of claim 5, wherein said mechanism-based virtual address is used by higher level components to send one or more communications to said communication mechanism.

28. (Original) The computer readable medium of claim 27, wherein said first network interface is coupled to a first network switch and said second network interface is coupled to a second network switch, and wherein said first and second static addresses are used by said first and second network switches to switch one or more communications to said communication mechanism via said first and second network interfaces.

29. (Original) The computer readable medium of claim 24, wherein said communication mechanism is operating in a particular role, said particular role having a role-based virtual address associated therewith, and wherein said computer readable medium further comprises:

instructions for causing one or more processors to, upon detecting malfunction of said first network interface, derive a second updated mapping by associating said role-based virtual address with said second static address; and

instructions for causing one or more processors to send said second updated mapping via said second network interface to said plurality of other mechanisms to cause said other mechanisms to use said second updated mapping in sending future communications to said role-based virtual address, said second updated mapping causing said other mechanisms to send future communications addressed to said role-based virtual address to said communication mechanism via said second network interface rather than said first network interface.

30. (Currently Amended) In a communication mechanism comprising a first network interface having a first static address, and a second network interface having a second static

address, said first network interface coupled to a first network switch and said second network interface coupled to a second network switch, said first static address being initially mapped to a mechanism-based virtual address associated with said communication mechanism, a computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more processors to manage communication, said computer readable medium comprising:

instructions for causing one or more processors to monitor for an indication of malfunction of said first network switch;

instructions for causing one or more processors to, upon detecting malfunction of said first network switch, ~~derive an updated mapping~~ dynamically map the mechanism-based virtual address to create an updated mapping by associating said mechanism-based virtual address with said second static address rather than said first static address; ~~and~~

instructions for causing one or more processors to send said updated mapping via said second network interface and said second network switch to a plurality of other mechanisms in a network ~~to cause~~:

instructions for causing said other mechanisms to use said updated mapping to communicate with said communication mechanism ~~in the future, said updated mapping causing~~; and

instructions for causing said other mechanisms to send ~~future~~ communications having said mechanism-based virtual address associated therewith to said communication mechanism via said second network interface rather than said first network interface.

31. (Original) The computer readable medium of claim 30, wherein said mechanism-based virtual address is a higher level address than said first and second static addresses.

32. (Previously presented) The computer readable medium of claim 31, wherein said mechanism-based virtual address comprises an Internet Protocol (IP) address, said first static address comprises a first media access control (MAC) address, and said second static address comprises a second MAC address.

33. (Original) The computer readable medium of claim 31, wherein said mechanism-based virtual address is used by higher level components to send one or more communications to said communication mechanism.

34. (Original) The computer readable medium of claim 33, wherein said first and second static addresses are used by said first and second network switches to switch one or more communications to said communication mechanism via said first and second network interfaces.

35. (Original) The computer readable medium of claim 31, wherein said communication mechanism is operating in a particular role, said particular role having a role-based virtual address associated therewith, and wherein said computer readable medium further comprises:

instructions for causing one or more processors to, upon detecting malfunction of said first network switch, derive a second updated mapping by associating said role-based virtual address with said second static address; and

instructions for causing one or more processors to send said second updated mapping via said second network interface and said second network switch to said plurality of other mechanisms to cause said other mechanisms to use said second updated mapping in sending future communications to said role-based virtual address, said second updated mapping causing said other mechanisms to send future communications addressed to said role-based virtual address to said communication mechanism via said second network interface rather than said first network interface.

36. (Currently Amended) In a communication mechanism comprising a first network interface having a first static address, a computer readable medium comprising instructions which, when executed by one or more processors, cause the one or more processors to manage communication, said computer readable medium comprising:

instructions for causing one or more processors to monitor a peer mechanism for an indication of malfunction, said peer mechanism operating in a particular role, said particular role have a role-based virtual address associated therewith;

instructions for causing one or more processors to, upon detecting malfunction of said peer mechanism, ~~derive an updated mapping~~ dynamically map the role-based virtual address to create an updated mapping by associating said role-based virtual address with said first static address; ~~and~~

instructions for causing one or more processors to send said updated mapping via said first network interface to a plurality of other mechanisms in a network ~~to cause~~; and

instructions for causing said other mechanisms to use said updated mapping in sending ~~future~~ communications to said role-based virtual address~~, said updated mapping causing~~ such that said other mechanisms ~~to~~ send ~~future~~ communications addressed to said role-based virtual address to said communication mechanism, via said first network interface, rather than said peer mechanism.

37. (Original) The computer readable medium of claim 36, wherein said role-based virtual address is a higher level address than said first static address.

38. (Original) The computer readable medium of claim 37, wherein said role-based virtual address comprises an Internet Protocol (IP) address, and said first static address comprises a media access control (MAC) address.

39. (Original) The computer readable medium of claim 37, wherein said role-based virtual address is used by higher level components to send one or more communications to whichever mechanism is operating in said particular role.

40. (Original) The computer readable medium of claim 39, wherein said first network interface is coupled to a network switch, and wherein said first static address is used by

said network switch to switch one or more communications to said communication mechanism via said first network interface.

41. (Original) The computer readable medium of claim 36, wherein said communication mechanism further comprises a second network interface having a second static address, and wherein said computer readable medium further comprises:

instructions for causing one or more processors to monitor said first network interface for an indication of malfunction;

instructions for causing one or more processors to, upon detecting malfunction, derive a second updated mapping by associating said role-based virtual address with said second static address rather than said first static address; and

instructions for causing one or more processors to send said second updated mapping via said second network interface to said other mechanisms to cause said other mechanisms to use said second updated mapping in sending future communications to said role-based virtual address, said updated mapping causing said other mechanisms to send future communications addressed to said role-based virtual address to said communication mechanism via said second network interface rather than said first network interface.

42. (Original) The computer readable medium of claim 36, wherein said communication mechanism further comprises a second network interface having a second static address, wherein said first network interface is coupled to a first network switch, wherein said

second network interface is coupled to a second network switch, and wherein said computer readable medium further comprises:

instructions for causing one or more processors to monitor for an indication of malfunction of said first network interface;

instructions for causing one or more processors to, upon detecting malfunction of said first network switch, derive a second updated mapping by associating said role-based virtual address with said second static address rather than said first static address; and

instructions for causing one or more processors to send said second updated mapping via said second network interface to said other mechanisms to cause said other mechanisms to use said second updated mapping in sending future communications to said role-based virtual address, said updated mapping causing said other mechanisms to send future communications addressed to said role-based virtual address to said communication mechanism via said second network interface rather than said first network interface.

43. (Currently Amended) A communication system, comprising:

a first network switch;

a second network switch;

a first communication mechanism comprising:

a first network interface coupled to said first network switch;

a second network interface coupled to said second network switch; and

a first communication manager for managing network communication via said first and second network interfaces; and

a second communication mechanism comprising:

a third network interface coupled to said first network switch;

a fourth network interface coupled to said second network switch; and

a second communication manager for managing network communication via said third and fourth network interfaces,

wherein said first network interface has a first static address and said second network interface has a second static address, wherein said first communication mechanism has a first mechanism-based virtual address associated therewith, and wherein said first management mechanism ~~can map~~dynamically maps said first mechanism-based virtual address to either said first static address or said second static address,

wherein said first management mechanism initially maps said first mechanism-based virtual address to said first static address, and ~~wherein~~ said first management mechanism ~~monitors~~monitoring said first network interface for an indication of malfunction, ~~and~~

said first management mechanism,upon detecting malfunction, ~~said first management mechanism deriving an updated mapping~~ dynamically mapping the first mechanism-based virtual address to create an updated mapping by associating said first mechanism-based virtual address with said second static address rather than said first static address,

said first management mechanism sending said updated mapping via said second network interface to at least said second communication mechanism to inform said second communication mechanism of said updated mapping; and

said second communication mechanism using the updated mapping to communicate with the first communication mechanism.

44. (Original) The communication system of claim 43, wherein said first network switch is coupled to said second network switch.

45. (Cancelled)

46. (Previously presented) The communication system of claim 43, wherein said third network interface has a third static address and said fourth network interface has a fourth static address, wherein said second communication mechanism has a second mechanism-based virtual address associated therewith, and wherein said second management mechanism can map said second mechanism-based virtual address to either said third static address or said fourth static address.

47. (Previously presented) The communication system of claim 43, wherein said first mechanism-based virtual address is a higher level address than said first and second static addresses.

48. (Previously Presented) The communication system of claim 47, wherein said first mechanism-based virtual address comprises an Internet Protocol (IP) address, said first static address comprises a first media access control (MAC) address, and said second static address comprises a second MAC address.

49. (Original) The communication system of claim 47, wherein said first mechanism-based virtual address is used by higher level components to send one or more communications to said first communication mechanism.

50. (Original) The communication system of claim 49, said first and second static addresses are used by said first and second network switches to switch one or more communications to said first communication mechanism via said first and second network interfaces.

51. (Cancelled)

52. (Previously Presented) The communication system of claim 43, wherein said second communication mechanism receives said updated mapping, and wherein said second communication mechanism receives a message addressed to said first mechanism-based virtual address, and responds by using said updated mapping to direct said message to said first communication mechanism via said second network interface rather than said first network interface.

53. (Previously Presented) The communication system of claim 43, wherein said first communication mechanism is operating in a particular role, said particular role having a role-based virtual address associated therewith, and wherein said first management mechanism, upon detecting malfunction of said first network interface, derives a second updated mapping by

associating said role-based virtual address with said second static address, said first management mechanism sending said second updated mapping via said second network interface to at least said second communication mechanism to inform said second communication mechanism of said second updated mapping.

54. (Original) The communication system of claim 53, wherein said second communication mechanism receives said second updated mapping, and wherein said second communication mechanism receives a second message addressed to said role-based virtual address, and responds by using said second updated mapping to direct said second message to said first communication mechanism via said second network interface rather than said first network interface.

55. (Original) The communication system of claim 45, wherein said first management mechanism initially maps said first mechanism-based virtual address to said first static address, and wherein said first management mechanism monitors for an indication of malfunction of said first network switch, and upon detecting malfunction of said first network switch, said first management mechanism deriving an updated mapping by associating said first mechanism-based virtual address with said second static address rather than said first static address, said first management mechanism sending said updated mapping via said second network interface to at least said second communication mechanism to inform said second communication mechanism of said updated mapping.

56. (Original) The communication system of claim 55, wherein said second communication mechanism receives said updated mapping, and wherein said second communication mechanism receives a message addressed to said first mechanism-based virtual address, and responds by using said updated mapping to direct said message to said first communication mechanism via said second network interface rather than said first network interface.

57. (Original) The communication system of claim 55, wherein said first communication mechanism is operating in a particular role, said particular role having a role-based virtual address associated therewith, and wherein said first management mechanism, upon detecting malfunction of said first network switch, derives a second updated mapping by associating said role-based virtual address with said second static address, said first management mechanism sending said second updated mapping via said second network interface to at least said second communication mechanism to inform said second communication mechanism of said second updated mapping.

58. (Original) The communication system of claim 57, wherein said second communication mechanism receives said second updated mapping, and wherein said second communication mechanism receives a second message addressed to said role-based virtual address, and responds by using said second updated mapping to direct said second message to said first communication mechanism via said second network interface rather than said first network interface.

59. (Original) The communication system of claim 45, wherein said communication system further comprises a third communication mechanism comprising a fifth network interface coupled to said first network switch and a sixth network interface coupled to said second network switch, wherein said first management mechanism initially maps said first mechanism-based virtual address to said first static address, and wherein said first management mechanism monitors said second communication mechanism for an indication of malfunction, said second communication mechanism operating in a particular role, said particular role have a role-based virtual address associated therewith, and upon detecting malfunction of said second communication mechanism, said first management mechanism deriving an updated mapping by associating said role-based virtual address with said first static address, said first management mechanism sending said updated mapping via said first network interface to at least said third communication mechanism to inform said third communication mechanism of said updated mapping.

60. (Original) The communication system of claim 59, wherein said third communication mechanism receives said updated mapping, and wherein said third communication mechanism receives a message addressed to said role-based virtual address, and responds by using said updated mapping to direct said message to said first communication mechanism, via said first network interface, rather than to said second communication mechanism.

61. (Original) The communication system of claim 43, further comprising:

a third communication mechanism comprising:

a fifth network interface coupled to said first network switch, said fifth network interface having a static address; and

a third management mechanism for managing network communication via said fifth network interface; and

a fourth communication mechanism comprising:

a sixth network interface coupled to said second network switch; and

a fourth management mechanism for managing network communication via said sixth network interface.

62. (Original) The communication system of claim 61, wherein said third management mechanism monitors said fourth communication mechanism for an indication of malfunction, said fourth communication mechanism operating in a particular role, said particular role have a role-based virtual address associated therewith, and upon detecting malfunction of said fourth communication mechanism, said third management mechanism deriving an updated mapping by associating said role-based virtual address with said static address, said third management mechanism sending said updated mapping via said fifth network interface to at least said first and second communication mechanisms to inform said first and second communication mechanisms of said updated mapping.

63. (Original) The communication system of claim 62, wherein said first communication mechanism receives said updated mapping, and wherein said first communication mechanism receives a message addressed to said role-based virtual address, and responds by using said updated mapping to direct said message to said third communication mechanism, via said fifth network interface, rather than to said fourth communication mechanism.